DOINGWHATW⌖RKS

Pacing Guides for Pre-Algebra and Algebra I
K.J. Clark School of Math, Science, and Technology, Alabama

Topic: National Math Panel: Critical Foundations for Algebra
Practice: Mathematics Preparation for Algebra

Mathematics teachers at Clark are guided by pacing guides prepared by the district. The pacing guides for each course identify for each week of the year which standards and objectives are to be taught. While not shown on the attached abbreviated samples, the pacing guides cross-reference the standards and objectives for each week to state standards, text materials, and formative assessments. Note that major benchmark assessments are built into the pacing plan. Attached are pacing guides for the Pre-Algebra course and the Algebra I course for middle school.

MOBILE COUNTY PUBLIC SCHOOLS
DIVISION OF CURRICULUM & INSTRUCTION
MIDDLE SCHOOL PACING GUIDE AT A GLANCE

PRE – ALGEBRA

Week	Standards/Objectives
	First Quarter = 45 days
Week 1	• Use various strategies and operations to review/solve problems involving real numbers.
Week 2	• Use various strategies and operations to review/solve problems involving real numbers.
Week 3	• Use order of operations to evaluate and simplify algebraic expressions.
Week 4	• Use order of operations to evaluate and simplify algebraic expressions. • Applying the properties of operations on rational numbers to evaluate and simplify algebraic expressions.
Week 5	• Applying the properties of operations on rational numbers to evaluate and simplify algebraic expressions. • Solve multi-step linear equations, including equations requiring the use of the distributive property.
Week 6	• Solve multi-step linear equations, including equations requiring the use of the distributive property.
Week 7	• Use various strategies and operations to review/solve problems involving real numbers. • Solve multi-step linear equations, including equations requiring the use of the distributive property.
Week 8	• Use various strategies and operations to review/solve problems involving real numbers. • Solve multi-step linear equations, including equations requiring the use of the distributive property.
Week 9	• Review previously taught material.
Week 10	• Review for CRT • Criterion Referenced Test will be given here.

Week	Standards/Objectives
	Second Quarter = 46 days
Week 11	• Graph linear relations. • Solve problems involving linear functions.
Week 12	• Graph linear relations. • Solve problems involving linear functions.
Week 13	• Graph linear relations. • Determine slopes and y-intercepts of lines. • Calculate the slope of a linear relation. • Solve problems involving linear functions.
Week 14	• Solve problems involving linear functions. • Determine the rule that defines a function.
Week 15	• Simplify expressions containing natural number exponents by applying one or more of the laws of exponents.
Week 16	• Simplify expressions containing natural number exponents by applying one or more of the laws of exponents.
Week 17	• Apply GCF, LCM, and prime and composite numbers when working with rational numbers. • Simplify expressions containing natural number exponents by applying one or more of the laws of exponents. • Write numbers using scientific notation.
Week 18	• Use various strategies and operations to review/solve problems involving real numbers. • 1c & 12a. Apply proportional reasoning. • Determine the lengths of missing sides and measures of angles in similar and congruent figures.
Week 19	• Review previous taught material.
Week 20	• Review for CRT • Criterion Referenced Test will be given here.

	Standards/Objectives
	Third Quarter = 45 days
Week 1	• Compare quadrilaterals, triangles, and solids.

	• Develop mathematical arguments about the relationships among the types of quadrilaterals and triangles. • Identify angle bisectors, perpendicular bisectors, congruent angles, and congruent figures. • Determine the measures of special angle pairs. • Determine the lengths of missing sides and measures of angles in similar and congruent figures.
Week 2	• Determine the lengths of missing sides and measures of angles in similar and congruent figures. • Find the perimeter and area of plane figures.
Week 3	• Find the perimeter and area of plane figures.
Week 4	• Determine the surface area and volume of rectangular prisms, cylinders, and pyramids. • Estimate surface area and volume of solid figures. • Determine the appropriate unit of measure. • Develop formulas for determining surface area and volume.
Week 5	• Determine the surface area and volume of rectangular prisms, cylinders, and pyramids. • Estimate surface area and volume of solid figures. • Determine the appropriate unit of measure. • Develop formulas for determining surface area and volume.
Week 6	• Determine the surface area and volume of rectangular prisms, cylinders, and pyramids. • Estimate surface area and volume of solid figures. • Determine the appropriate unit of measure. • Develop formulas for determining surface area and volume.
Week 7	• Determine whether a number is rational or irrational. • Solve problems using the Pythagorean Theorem. • Verifying the Pythagorean Theorem. • Determine if a triangle is a right triangle. • Find the missing length of a side of a right triangle. • Calculate distances on the coordinate plane.
Week 8	• Determine the theoretical probability of an event. • Comparing experimental and theoretical probability. • Computing the probability of two independent and two dependent events.
Week 9	• Review previously taught material. • Use various strategies and operations to solve problems involving real numbers. • Determine the theoretical probability of an event. • Comparing experimental and theoretical probability. • Determining the probability through simulation.
Week 10	• Review for CRT • Criterion Referenced Test will be given here.

Week	Standards/Objectives Fourth Quarter = 44 days
Week 11	• Interpret data from populations. • Represent data with the most appropriate graph. • Comparing data sets involving two populations. • Determine the most appropriate measure of the center.
Week 12	• Represent data with the most appropriate graph. • Making predictions by estimating the line of best fit.
Week 13	• Testing
Week 14	• Testing
Week 15	• Using alternative representations of rational numbers. • Applying proportional reasoning. • Demonstrate the computational fluency with operations on rational numbers.
Week 16	• Use various strategies and operations to solve problems involving real numbers. • Using alternative representations of rational numbers. • Demonstrate the computational fluency with operations on rational numbers.
Week 17	• Technology Unit/Activity.
Week 18	• Review previously taught material.
Week 19	• Review for CRT • Criterion Referenced Test will be given here.

MOBILE COUNTY PUBLIC SCHOOLS
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MIDDLE SCHOOL PACING GUIDE AT A GLANCE

ALGEBRA I MIDDLE SCHOOL

Week	Standards/Objectives
	First Quarter = 45 days
Week 1	• Skills review.
Week 2	• Simplify numerical expressions using properties of real numbers and order of operation. • Solve problems algebraically that involve area and perimeter of a polygon, area and circumference of a circle.
Week 3	• Simplify numerical expressions using properties of real numbers and order of operation. • Solve problems algebraically that involve area and perimeter of a polygon, area and circumference of a circle.
Week 4	• Solve multi-step equations. • Model real-world problems by developing and solving equations.
Week 5	• Solve multi-step equations. • Model real-world problems by developing and solving equations. • Solve problems algebraically that involve area and perimeter of a polygon, area and circumference of a circle. • Apply formulas to solve word problems.
Week 6	• Solve multi-step equations and inequalities. • Solve problems algebraically that involve area and perimeter of a polygon, area and circumference of a circle. • Apply formulas to solve word problems. • Compare various methods of data reporting. • Determining effects of outliers. • Identifying characteristics of a data set. Graphing the solution of inequality.
Week 7	• Solve multi-step inequalities. • Graphing the solution of an inequality. • Model real-world problems by developing and solving equations and inequalities. • Solve problems algebraically that involve area and perimeter of a polygon.
Week 8	• Solve multi-step inequalities. • Graphing the solution of an inequality. • Model real-world problems by developing and solving equations and inequalities.
Week 9	• Solve multi-step inequalities. • Graphing the solution of an inequality. • Model real-world problems by developing and solving equations and inequalities. • Review for CRT
Week 10	• Review for CRT • Criterion Referenced Test will be given here.

Week	Standards/Objectives
	Second Quarter = 46 days
Week 11	• Solve multi-step equations. • Model real-world problems by developing and solving equations. • Solve problems algebraically that involve volume and of right rectangular prisms. • Apply formulas to solve word problems.
Week 12	• Use a scatterplot and its line of best fit or a specific line graph to determine the relationship existing between two sets of data. • Estimate probabilities given data in lists or graphs. • Compare theoretical and experimental probabilities.
Week 13	• Analyze linear functions from their equations, slopes and intercepts. • Determine the equations of linear function given a graph, a table of values, mappings, or sets of ordered pairs.

	• Graph two-variable linear equations and inequalities on the Cartesian plane. • Determine characteristics of a relation. • Find the range of a function when given its domain. • Represent graphically common relations. • Identify situations that are modeled by common relations. • Model real-world problems by developing and solving equations.
Week 14	• Analyze linear functions from their equations, slopes and intercepts. • Determine the equations of linear function given a graph, a table of values, mappings, or sets of ordered pairs. • Model real-world problems by developing and solving equations.
Week 15	• Analyze linear functions from their equations, slopes and intercepts. • Finding the slope of a line from its equation or by applying the slope formula. • Calculate slope of a line segment when given coordinates of its endpoints on the Cartesian plane. • Deriving the slope formula.
Week 16	• Analyze linear functions from their equations, slopes, and intercepts. • Finding the slope of a line from its equation or by applying the slope formula. • Determine the equation of linear functions. • Graph two variable linear equations on the Cartesian plane. • Calculate slope of a line segment when given coordinates of its endpoints on the Cartesian plane.
Week 17	• Analyze linear functions from their equations, slopes and intercepts. • Finding the slope of a line from its equation or by applying the slope formula. • Determine the equation of linear functions. • Graph two-variable linear equations on the Cartesian plane. • Calculate slope of a line segment when given coordinates of its endpoints on the Cartesian plane.
Week 18	• Analyze linear functions from their equations, slopes and intercepts. • Finding the slope of a line from its equation or by applying the slope formula. • Determine the equation of linear functions. • Represent graphically common relations. • Compare various methods of data reporting. • Determining effects of linear transformations of data. • Identifying characteristics of a data set. • Use a scatterplot and its line of best fit or a specific line graph to determine the relationship existing between two sets of data.
Week 19	• Compare various methods of data reporting. • Determining effects of linear transformations of data. • Identifying characteristics of a data set. • Use a scatterplot and its line of best fit or a specific line graph to determine the relationship existing between two sets of data. • Review for CRT
Week 20	• Review for CRT • Criterion Referenced Test will be given here.

Week	Standards/Objectives **Third Quarter = 45 days**
Week 1	• Graph two-variable linear inequalities on the Cartesian plane. • Solve systems of linear equations and inequalities in two variables graphically or algebraically. • Model real-world problems by developing and solving systems of linear equations and inequalities.
Week 2	• Solve systems of linear equations in two variables graphically or algebraically. • Model real-world problems by developing and solving systems of linear equations.
Week 3	• Apply laws of exponents to simplify expressions. • Solve problems algebraically that involve area and perimeter of a polygon, area and circumference of a circle, and volume and surface area of right rectangular prisms.
Week 4	• Apply laws of exponents to simplify expressions. • Divide by a monomial. • Model real-world problems by developing and solving equations and inequalities.

Week 5	• Perform operations of addition, subtraction, and multiplication on polynomials expressions. • Solve problems algebraically that involve volume of a right circular cylinder and a right rectangular prism.
Week 6	• Perform operations of addition, subtraction, and multiplication on polynomials expressions. • Solve problems algebraically that involve volume of a right circular cylinder and a right rectangular prism.
Week 7	• Factor binomials, trinomials, and other polynomials using GCF, difference of squares, perfect square trinomials, and grouping.
Week 8	• Factor binomials, trinomials, and other polynomials using GCF, difference of squares, perfect square trinomials, and grouping. • Apply formulas to solve word problems.
Week 9	• Factor binomials, trinomials, and other polynomials using GCF, difference of squares, perfect square trinomials, and grouping. • Apply formulas to solve word problems. (Section 9-7 and 9-8) • Review for CRT
Week 10	• Review for CRT • Criterion Referenced Test will be given here.

Week	Standards/Objectives
	Fourth Quarter = 44 days
Week 11	• Simplify numerical expressions using properties of real numbers including those involving square roots, radical form, or decimal approximations. • Calculate length and midpoint of a line segment when given coordinates of its endpoints on the Cartesian plane. • Deriving the distance and midpoint formulas. • Solve problems algebraically that involve area and perimeter of a polygon, area and circumference of a circle, and volume and surface area of right circular cylinders or right rectangular prisms.
Week 12	• Review
Week 13	• Testing • Technology unit • Math component of science fair project.
Week 14	• Testing • Technology unit
Week 15	• Simplify numerical expressions using properties of real numbers including those involving square roots, radical form, or decimal approximations. • Solve multi-step equations. • Model real-world problems by developing and solving equations.
Week 16	• Represent graphically common relations. • Identify situations that are modeled by common relations.
Week 17	• Represent graphically common relations. • Identify situations that are modeled by common relations. • Solve quadratic equations using the zero product property. • Approximate solutions graphically and numerically. • Solve problems algebraically that involve area and perimeter of a polygon, area and circumference of a circle, and volume and surface area of right circular cylinders or right rectangular prisms.
Week 18	• Solve quadratic equations using the zero product property. • Approximate solutions graphically and numerically. • Solve problems algebraically that involve area and perimeter of a polygon, area and circumference of a circle, and volume and surface area of right circular cylinders or right rectangular prisms. • Review for CRT
Week 19	• Review for CRT • Criterion Referenced Test will be given here.